Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Previously Presented) A communication method for use in a communication system utilizing a plurality of bands, the communication method comprising the steps of:

mapping a bit stream in a data stream to the plurality of bands, respectively, in a first band order wherein the first band order indicates a mapping pattern for mapping the bit stream to the respective plurality of bands;

mapping the bit stream to the same plurality of bands, as the plurality of bands used to map the bit steam in the first band order, in a second band order, wherein the second band order indicates a mapping pattern that is different from the mapping pattern of the first band order; and

transmitting the bit stream mapped to the plurality of bands respectively in the first band order and the bit stream mapped to the plurality of bands respectively in the second band order without changing the plurality of bands used to transmit the bit stream.

2. (Previously Presented) The communication method of claim 1, wherein the method is for use in an Ultra Wideband (UWB) communication system which utilizes a plurality of UWB multi-bands and wherein the transmitting step comprises the steps of:

transmitting the bit stream in the first band order via a first UWB multi-band of the plurality of UWB multi-bands and the bit stream in the second band order via a second UWB multi-band of the plurality of UWB multi-bands.

3. (Previously Presented) The communication method of claim 1, further comprising the step of:

receiving a received error indicator corresponding to the bit stream in the first band order, wherein the bit stream is mapped to the plurality of bands in the second band order and transmitted in the second band order only responsive to receipt of the received error indicator.

4. (Cancelled)

5. (Cancelled)

6. (Previously Presented) The communication method of claim 1, wherein the bit stream is mapped to the plurality of bands in the first band order in a frame time and wherein the step of mapping the bit steam to the plurality of bands in the second band order comprises the steps of:

mapping the bit stream to the plurality of bands in the second band order in a subsequent frame time to the frame time in which the bit stream is mapped to the plurality of bands in the first band order.

7. (Previously Presented) A communication method for use in a communication system including a transmitter utilizing a plurality of bands, the transmitter capable of mapping: (1) an input bit stream to the plurality of bands in a first band order wherein the first band order indicates a mapping pattern for mapping the bit stream to the respective plurality of bands and (2) the input bit stream to the same plurality of bands, as the plurality of bands used to map the input bit steam in the first band order, in a second band order, wherein the second band order indicates a mapping pattern that is different from the mapping pattern of the first band order without changing the plurality of bands, the communication method comprising the steps of:

receiving a bit stream in the plurality of bands during a first transmission and an other bit stream in the same plurality of bands during a second transmission, each of the received bit streams corresponding to the input bit stream;

demapping the received bit stream according to the first band order pattern to obtain a first band bit stream corresponding to the input bit stream;

demapping the other bit stream according to the second band order pattern to obtain a second band bit stream corresponding to the input bit stream; and

processing the first and second band bit streams to yield the input bit stream.

8. (Previously Presented) The communication method of claim 7, wherein the first and second band bit streams each include symbols and wherein the processing step comprises the step of:

combining symbols in the first band bit stream with corresponding symbols in the second band bit stream; and

processing the combined symbols to yield the input bit stream.

9. (Previously Presented) The communication method of claim 7, wherein the transmitter is configured to map the input bit stream to the plurality of bands in the second band order responsive to an error detection signal and wherein the method further comprises the steps of:

detecting errors in the first transmission; and

generating the error detection signal for receipt by the transmitter responsive to the detected errors.

10. (Previously Presented) A communication apparatus for use in a communication system utilizing a plurality of bands, the communication apparatus comprising:

a mapper configured to map a bit stream to the plurality of bands, respectively, in a first band order wherein the first band order indicates a mapping pattern for mapping the bit stream to the respective plurality of bands and to map the bit stream to the same plurality of bands, as the plurality of bands used to map the bit steam in the first band order, in a second band order wherein the second band order indicates a mapping pattern that is different from the mapping pattern of the first band order; and

a transmitter coupled to the mapper, the transmitter configured to transmit the bit stream mapped to the plurality of bands respectively in the first band order and the bit stream mapped to the plurality of bands respectively in the second band order without changing the plurality of bands used to transmit the bit stream.

11. (Previously Presented) The communication apparatus of claim 10, wherein the transmitter is an Ultra Wideband (UWB) multi-band transmitter.

12. (Previously Presented) The communication apparatus of claim 10, wherein the mapper is further configured to receive a received error indicator corresponding to the bit stream mapped to the plurality of bands in the first band order and wherein the mapper only maps the bit stream to the plurality of bands in the second band order for transmission by the transmitter responsive to receipt of the received error indicator.

13. (Cancelled)

14. (Previously Presented) The communication apparatus of claim 10, wherein the mapper is configured to map the bit stream to the plurality of bands in the first band order in a frame time and to map the bit stream to the same plurality of bands in the second band order in a subsequent frame time to the frame time in which the bit stream is mapped to the first band order.

15. (Previously Presented) A communication apparatus for use in a communication system including a transmitter utilizing a plurality of bands, the transmitter capable of mapping: (1) an input bit stream to the plurality of bands in a first band order wherein the first band order indicates a mapping pattern for mapping the bit pattern to the respective plurality of bands and (2) the input bit stream to the same plurality of bands, as the plurality of bands used to map the input bit steam in the first band order, in a second band order, wherein the second band order indicates a mapping pattern that is different than the mapping pattern of the first band order without changing the plurality of bands, the communication apparatus comprising:

a receiver configured to receive a bit stream corresponding to the input bit stream in the plurality of bands during a first transmission and an other bits stream corresponding to the input bit stream in the same plurality of bands during a second transmission;

a demapper coupled to the receiver, the demapper configured to demap the bit stream according to the first band order mapping pattern to obtain a first band bit stream corresponding to the input bit stream and to demap the other bit stream according to the second band order mapping pattern to obtain a second band bit stream corresponding to the first band bit stream; and

a processor coupled to the demapper, the processor configured to process the first and second band bit streams to yield the input bit stream.

16. (Previously Presented) The communication apparatus of claim 15, wherein the first and second input bit streams each include symbols and wherein the processor is further configured to combine symbols in the first input bit stream with corresponding symbols in the second input bit stream and to process the first and second input bit streams to yield the input bit stream.

17. (Previously Presented) The communication apparatus of claim 16, wherein the transmitter maps the portion of the input bit steam to the plurality of bands in the second band order responsive to an error detection signal and wherein the processor is further configured to

detect errors in the first transmission and to generate the error detection signal for receipt by the transmitter responsive to the detected error.

18. (Currently Amended) A system for use in a communication system utilizing a plurality of bands, the system comprising:

means for mapping a bit stream to the plurality of bands, respectively, in a first band order wherein the first band order indicates a mapping pattern for mapping the bit stream to the respective plurality of bands;

means for mapping the bit stream to the same plurality of bands, as the plurality of bands used to map the bit steam in the first band order, in a second band order wherein the second band order indicates a mapping pattern that is different from the ~~maping~~mapping pattern of the first band order; and

means for transmitting the bit stream mapped to the plurality of bands respectively in the first band order and the bit stream mapped to the plurality of bands in the second band order without changing the plurality of bands used to transmit the bit stream.

19. (Previously Presented) The system of claim 18, further comprising:

means for receiving a received error indicator corresponding to the bit stream in the first band order, wherein the bit stream is mapped to the plurality of bands in the second band order and transmitted in the second band order only responsive to receipt of the received error indicator.

20. (Previously Presented) A system for use in a communication system including a transmitter utilizing a plurality of bands, the transmitter capable of mapping: (1) an input bit stream to the plurality of bands in a first band order wherein the first band order indicates a mapping pattern for mapping the bit stream to the respective plurality of bands and (2) the input bit stream to the same plurality of bands, as the plurality of bands used to map the input bit steam in the first band order, in a second band order, wherein the second band order indicates a mapping pattern that is different from the mapping pattern of the first band order without changing the plurality of bands, the communication system comprising:

means for receiving a bit stream in the plurality of bands during a first transmission and an other bit stream in the same plurality of bands during a second transmission, each of the received bit streams corresponding to the input bit stream;

means for demapping the received bit stream according to the first band order mapping pattern to obtain a first band bit stream corresponding to the input bit stream;

means for demapping the other bit stream according to the second band order mapping pattern to obtain a second band bit stream corresponding to input bit stream; and

means for processing the first and second band bit streams to yield the input bit stream.

21. (Previously Presented) The system of claim 20, wherein the means for processing comprises:

means for combining symbols in the first band bit stream with corresponding symbols in the second band bit stream; and

means for processing the combined symbols to yield the input bit stream.

22. (Previously Presented) The system of claim 21, wherein the transmitter is configured to map the input bit stream to the plurality of bands in the second band order responsive to an error detection signal and wherein the system further comprises:

means for detecting errors in the first transmission; and

means for generating the error detection signal for receipt by the transmitter responsive to the detected errors.

23. (Previously Presented) A tangible computer readable carrier including software that is configured to control a computer to implement a multi-band ultra wideband signal processing method embodied in a computer readable medium, the method including the steps of:

mapping a bit stream to a plurality of bands in a first band order wherein the first band order indicates a mapping pattern for mapping the bit stream to the respective plurality of bands;

mapping the bit stream to the same plurality of bands, as the bands used to map the input bit steam in the first band order, in a second band order, wherein the second band order indicates a mapping pattern that is different from the mapping pattern of first band order; and

transmitting the bit stream mapped to the plurality of bands respectively in the first band order and the bit stream mapped to the plurality of bands respectively in the second band order without changing the plurality of bands used to transmit the bit stream.

24. (Previously Presented) The tangible computer readable carrier of claim 23, wherein the method implemented by the computer further includes the step of:

receiving a received error indicator corresponding to the bit stream in the first band order, wherein the bit stream is mapped to the plurality of bands in the second band order and transmitted in the second band order only responsive to receipt of the received error indicator.

25. (Previously Presented) A tangible computer readable carrier including software that is configured to control a computer to implement a multi-band ultra wideband signal processing method embodied in a computer readable medium for use in a communication system including a transmitter, the transmitter capable of mapping an input bit stream to a plurality of bands in a first band order, wherein the first band order indicates a mapping pattern for mapping the bit stream to the respective plurality of bands, and the input bit stream to the same plurality of bands, as the bands used to map the input bit steam in the first band order, in a second band order, wherein the second band order indicates a mapping pattern that is different from the mapping pattern of the first band order without changing the plurality of bands used to transmit the bit stream, the processing method including the steps of:

receiving a bit stream in the plurality of bands during a first transmission and an other bit stream in the same plurality of bands during a second transmission, each of the received bit streams corresponding to the input bit stream;

demapping the received bit stream according to the first band order mapping pattern to obtain a first band bit stream corresponding to the input bit stream;

demapping the other bit stream according to the second band order mapping pattern to obtain a second band bit stream corresponding to the input bit stream; and

processing the first and second band bit streams to yield the input bit stream.

26. (Previously Presented) The tangible computer readable carrier of claim 25, wherein the processing step for implementation by the computer comprises the steps of:

combining symbols in the first band bit stream with corresponding symbols in the second band bit stream; and

processing the combined symbols to yield the input bit stream.

27. (Previously Presented) The tangible computer readable carrier of claim 26, wherein the transmitter is configured to map the portion of the input bit stream to the plurality of bands in the second band order responsive to an error detection signal and wherein the method implemented by the computer further includes the step of:

detecting errors in the first transmission; and

generating the error detection signal for receipt by the transmitter responsive to the detected errors.

28. (Previously Presented) The method of claim 1, wherein the bit stream is mapped to each of the plurality of bands in the first band order and is mapped to each of the same plurality of bands in the second band order.

29. (Previously Presented) The system of claim 18, wherein the bit stream is mapped to each of the plurality of bands in the first band order and is mapped to each of the same plurality of bands in the second band order.

30. (Previously Presented) The tangible computer readable carrier of claim 23, wherein the bit stream is mapped to each of the plurality of bands in the first band order and is mapped to each of the same plurality of bands in the second band order.

31. (Currently Amended) The method of claim 1, wherein the bit stream is mapped to the plurality of bands in the first band order and is mapped to the same plurality ~~o~~of bands in the second band order without removing one or more bands.

32. (Currently Amended) The system of claim 18, wherein the bit stream is mapped to the plurality ~~o~~of bands in the first band order and is mapped to the same plurality ~~o~~of bands in the second band order without removing one or more bands.

33. (Previously Presented) The tangible computer readable carrier of claim 23, wherein the bit stream is mapped to the plurality of bands in the first band order and is mapped to the same plurality of bands in the second band order without removing one or more bands.

34. (Previously Presented) The method of claim 1, wherein, in the transmitting step, a first frequency band for transmitting the bit stream in the first band order and a second frequency band for transmitting the bit stream in the second band order are the same frequency band.

35. (Canceled)

36. (Previously Presented) The method of claim 1, wherein, the transmitting step includes simultaneously transmitting the bit stream in the first band order and the bit stream in the second band order for receipt by the receiver.